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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/693,509

Applicant(s)

STRASMAN ET AL.

Examiner

VENKATESH HALIYUR

Art Unit

2476

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/30/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-111 (claims 2,55,106-109 canceled) is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-54,56-105,110-111 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 07/30/2009 has been fully considered. Please refer to the decision on petition granted indicated via office communication of 09/14/2009. However the amendment necessitated a new ground(s) of rejection using a newly found reference. Rejection follows.
2. Claims 1-111 are pending in the application. Claims 2, 55, 106-109 are canceled.

Claim Objections

3. Claims 1, 40, 47, 54 are objected to because of the following informalities:
These claims recite the methods for receiving and multiplexing different types of multimedia streams and the functionality provided appears to be performed by the multiplexer, however the examiner respectfully suggests applicants to positively recite the receiving and multiplexing devices in these claims in reference to the figures 1-2 as specified in the drawings. Appropriate correction is required to these claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-39, 54, 56-91, 110-111 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al [US Pat: 6,891,854] and Bennett et al [US Pat: 6,421,359] further in view of Namba et al [US Pat: 5,966,448].

Regarding claim 1, Zhang et al in the invention of "System and Method for Transporting a Compressed Video and Data Bit Stream Over a Communication Channel" disclosed a method for generating a multiplex of media streams (**Figs 2A-4, and Fig 7, col 6, lines 28-63**), the method comprising: receiving a set of media streams, each media stream of the set of media streams comprises non-encrypted media stream (**item 802 of Fig 8**) components and encrypted media stream (**item 804 of Fig 8**) components (**multiple bit streams, col 13, lines 59-67, col 14, lines 1-17, col 14, lines 37-62, Figs 7-8**), applying a modification process (**item 704 of Fig 7**) as to provide at least one modified non-encrypted media stream component (**only video data is encoded to be modified, col 11, lines 56-65, col 14, lines 20-24, Fig 5**) and multiplexing (**item 706 of Fig 7**) at

least encrypted media stream components and the modified non-encrypted media stream components (**col 14, lines 25-37**). Zhang et al disclosed multiple media streams comprising of audio, video and data streams (**col 4, lines 63-67, col 5, lines 1-7**), but fails to disclose a set of media streams comprising non-encrypted and encrypted media streams received at the media stream modification unit. However, Bennett et al in the invention of "Apparatus and Method for Multi-service Transport Multiplexing" disclosed a method where in sets of different types of media streams namely audio, video and data streams (**items 52s, 54s, 56s A-F's streams, Fig 6**) are received at the modification unit (**encoder/multiplexer unit, item 100s A-F of Fig 6, col 13, lines 13-30**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving sets of different types of media streams received as taught by Bennett et al in the system of Zhang et al to include the method of receiving a set of media streams comprising first and second type media streams received at the media stream.

However, both Zhang and Bennett fail to disclose the feature of receiving media streams comprising non-encrypted and encrypted media stream components. However, Namba et al disclosed the method for receiving media streams comprising each non-encrypted and encrypted media stream components (**col 15, lines 25-67, col 16, lines 1-67, Figs 1-5**).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving encrypted and

non-encrypted types of media streams as taught by Namba et al in the system of Zhang et al as modified by Bennett to include the method of receiving a set of media streams comprising non-encrypted and encrypted media streams received at the media stream receiving device. One is motivated as such in order to provide an encoder/multiplexer unit that receives different sets of media streams which is auto configured to perform encoding/decoding (encryption/decryption) on a specific type media stream from the set of media streams.

Regarding claims 3, 56, Zhang et al disclosed wherein the modification process involves lossy compression (**col 2, lines 28-34, Fig 2A**).

Regarding claims 4, 57, Zhang et al disclosed wherein the modification process involves lossless compression (**col 14, lines 18-20, Fig 2A**).

Regarding claims 5, 58, Zhang et al disclosed wherein the modification process involves altering a size of at least one media stream component (**col 10, lines 63-67 Fig 4**).

Regarding claims 6, 59-60, Zhang et al disclosed wherein the modification process involves altering a timing of transmission of at least one media stream component (**col 9, lines 7-27, Fig 4**).

Regarding claims 7, 61, Zhang et al disclosed wherein the step of multiplexing further comprises multiplexing non-modified non-encrypted media stream components (**CBR, col 11, lines 46-57**).

Regarding claims 8, 62, Zhang et al disclosed wherein the step of modifying comprises executing modification sessions in a periodical manner **(rate controller, item 512 of Fig 5, col 11, lines 47-54).**

Regarding claims 9, 63, Zhang et al disclosed wherein each modification session is associated with a group of media stream components that are received during a certain time period **(col 11, lines 61-65).**

Regarding claims 10, 64, Zhang et al disclosed wherein each modification session is associated with media stream components of a certain aggregate size **(col 11, lines 47-54).**

Regarding claims 11, 65, Zhang et al disclosed wherein each modification session is associated with a group of media stream components to be transmitted during a certain time period **(col 6, lines 42-59).**

Regarding claims 12, 66, Zhang et al disclosed wherein each modifications session is associated with media streams components of the set of media streams that were not transmitted **(col 14, lines 20-27).**

Regarding claims 13, 67, Zhang et al disclosed wherein at least one modification session includes modifying a size of at least one media stream component of the group, evaluating the size of the at least one modified non-encrypted media stream component, and determining whether additional modification is required **(col 14, lines 3-35).**

Regarding claims 14,68, Zhang et al disclosed wherein at least one modification session includes modifying a timing of at least one media stream

component of the group, evaluating the timing of the at least one modified non-encrypted media stream component, and determining whether additional modification is required **(col 14, lines 28-38)**.

Regarding claims 15-16, 69-70, Zhang et al disclosed wherein the additional modification comprises modifying a non-modified non-encrypted media stream component of the group or re-modifying **(modification performs encoding and decoding process for Bitstreams)** a modified media stream component of the group and wherein at least one media stream of the set is partially encrypted **(col 4, lines 40-62)**.

Regarding claims 17, 71, Zhang et al disclosed further comprising determining at least one control parameter **(col 17, lines 4-11)**.

Regarding claims 18, 72, Zhang et al disclosed wherein the determination is followed by selecting an encrypted version of a media stream out of multiple distinct encrypted versions **(col 9, lines 35-65)**.

Regarding claims 19, 73, Zhang et al disclosed wherein the distinct encrypted versions differ from each other by a parameter that is video quality, encryption level or size **(col 9, lines 48-50)**.

Regarding claims 20, 74, Zhang et al disclosed wherein the distinct encrypted versions differ from each other by the manner that they were generated **(col 9, lines 52-57)**.

Regarding claims 21, 75, Zhang et al disclosed wherein the determination is followed by altering an encryption of a media stream (**encoded media streams, col 10, lines 63-67**).

Regarding claims 22, 75, Zhang et al disclosed wherein the determination is followed by altering the modification process (**col 10, lines 54-60**).

Regarding claims 23, 77, Zhang et al disclosed further comprising assigning encryption priorities to media stream components and whereas encryption is altered in response to the at least one control parameter and the encryption priorities (**col 14, lines 18-34**).

Regarding claims 24, 78, Zhang et al disclosed wherein a media stream is represented by multiple layers and whereas the determination is followed by altering at least one layer, deleting one layer or adding a new layer (**col 15, lines 49-57, Fig 9**).

Regarding claims 25, 79, Zhang et al disclosed wherein a media stream is represented by multiple layers and whereas the determination is followed by altering the selection of layers that undergo encryption (**col 18, lines 41-48**).

Regarding claims 26-28, 80,82, Zhang et al disclosed further comprising assigning modification priorities to media stream components and determining at least one control parameter in response to the modification priorities and wherein the at least one control parameter is determined in response to an encryption scheme applied on media stream components (**col 18, lines 41-48**).

Regarding claims 29-30, 81, 83, Zhang et al disclosed further comprising assigning encryption priorities to media stream components and determining at least one control parameter in response to the encryption priorities (**col 14, lines 18-37**) and wherein the determination is responsive to the target bit rate, the bit rate of encrypted media stream components and of non-encrypted media stream components previously received (**col 14, lines 17-24**).

Regarding claim 31-32, 84, Zhang et al disclosed wherein the determination is responsive to the timing and size associated with received media stream components (**col 14, lines 3-35**) and wherein the step of modifying comprises selecting between encrypted media stream components and non-encrypted media stream components (**col 14, lines 17-24**).

Regarding claims 33-34, 85-86, Zhang et al disclosed wherein the step of selecting comprises analyzing at least one encryption indication associated with at least one media stream component (**col 9, lines 48-51**) and further comprising assigning modification priorities to media streams and modifying media stream components in response to the modification priorities (**col 14, lines 24-32**).

Regarding claims 35-36, 87-88, Zhang et al disclosed wherein at least one media stream of the set is represented by multiple layers and at least a portion of at least one layer is encrypted and wherein the layers comprise a base layer and at least one supplemental layer (**col 15, lines 49-57**).

Regarding claims 37-38, 89-90, Zhang et al disclosed wherein the layers provide spatial scalability (**col 12, lines 65-67**) and wherein the layers provide temporal scalability (**col 2, lines 1-27**).

Regarding claims 39, 91, Zhang et al disclosed wherein the layers are generated by filtering (**col 12, lines 13-20**).

Regarding claim 54, Zhang et al disclosed an apparatus for generating a multiplex of media streams, the apparatus (**Fig 8**) comprising: an interface, for receiving a set of media streams, each media stream of the set of media streams comprises non-encrypted media stream components and encrypted media stream components (**items 802-806 of Fig 8, multiple bit streams, Figs 7-8, col 14, lines 37-62**); a statistical multiplexing unit (**item 808 of Fig 8**) for applying a modification process on the non-encrypted media stream components (**col 14, lines 38-42**), such as to provide at least one modified non-encrypted media stream component (**col 14, lines 62-67, col 15, lines 1-12**) and for multiplexing at least the encrypted media stream components and the modified non-encrypted media stream components (**only video data is encoded to be modified, col 11, lines 56-65, col 15, lines 13-17, Fig 5**). Zhang et al disclosed multiple media streams comprising of audio, video and data streams (**col 4, lines 63-67, col 5, lines 1-7**), but fails to disclose a set of media streams comprising first and second type media streams received at the media stream modification unit. However, Bennett et al disclosed a method where in sets of different types of media streams namely audio, video and data streams (**items 52s, 54s, 56s A-**

F's streams, Fig 6) are received at the modification unit (**encoder/multiplexer unit, item 100s A-F of Fig 6, col 13, lines 13-30**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving sets of different types of media streams received as taught by Bennett et al in the system of Zhang et al to include the method of receiving a set of media streams comprising first and second type media streams received at the media stream.

However, both Zhang and Bennett fail to disclose the feature of receiving media streams comprising non-encrypted and encrypted media stream components. However, Namba et al disclosed the method for receiving media streams comprising each non-encrypted and encrypted media stream components (**col 15, lines 25-67, col 16, lines 1-67, Figs 1-5**).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving encrypted and non-encrypted types of media streams as taught by Namba et al in the system of Zhang et al as modified by Bennett to include the method of receiving a set of media streams comprising non-encrypted and encrypted media streams received at the media stream receiving device. One is motivated as such in order to provide an encoder/multiplexer unit that receives different sets of media streams which is auto configured to perform encoding/decoding (encryption/decryption) on a specific type media stream from the set of media streams.

Regarding claims 110,111, Zhang et al disclosed wherein the applying of the modification process comprises modifying second type media stream components (**items 802-806 of Fig 8**) that are included in different media streams of the set of media streams (**col 14, lines 62-67, col 15, lines 1-12**), but fails to disclose different set of multimedia streams. However, Bennett et al disclosed a method where in sets of different types of media streams namely audio, video and data streams (**items 52s, 54s, 56s A-F's streams, Fig 6**) are received at the modification unit (**encoder/multiplexer unit, item 100s A-F of Fig 6, col 13, lines 13-30**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving sets of different types of media streams received as taught by Bennett et al in the system of Zhang et al to include the method of receiving a set of media streams comprising first and second type media streams received at the media stream.

However, both Zhang and Bennett fail to disclose the feature of receiving media streams comprising each non-encrypted and encrypted media stream components. However, Namba et al disclosed the method for receiving media streams comprising each non-encrypted and encrypted media stream components (**col 15, lines 25-67, col 16, lines 1-67, Figs 1-5**).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving encrypted and non-encrypted types of media streams as taught by Namba et al in the system of

Zhang et al as modified by Bennett to include the method of receiving a set of media streams comprising non-encrypted and encrypted media streams received at the media stream receiving device. One is motivated as such in order to provide an encoder/multiplexer unit that receives different sets of media streams which is auto configured to perform encoding/decoding (encryption/decryption) on a specific type media stream from the set of media streams.

5. Claims 40-53, 92-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al [US Pat: 6,795,506] and Kollmyer et al [US Pat: 7,165,175], further in view of Namba et al [US Pat: 5,966,448].

Regarding claims 40, 92, Zhang et al disclosed a method for partially encrypting a media stream (**video bit stream, item 60 of Fig 3B**), the method comprising the steps of: receiving a media stream (**col 13, lines 3-13**); converting the media stream to multiple layers that provide at least one out of a spatial scalability and a temporal scalability (**encoding streams in to multiple layers, col 15, lines 36-56, Fig 4A-B**), but fails to disclose encrypting at least a portion of at least one layer. However, Kollmyer et al in the invention of "Apparatus System and Method for Selectively Encrypting Different Portions of Data Sent over a Network" disclosed a method for encrypting selected portions of the multimedia data (**encrypted media stream, col 5, lines 62-67, col 6, lines 1-7, Fig 1**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of encrypting

selected portions of the multimedia data in media streams as taught by Kollmyer et al in the system of Zhang et al to include the method converting the media stream to multiple layers and encrypting at least a portion of at least one layer.

However, both Zhang and Kollmyer fail to disclose the feature of receiving media streams comprising non-encrypted and encrypted media stream components. However, Namba et al disclosed the method for receiving media streams comprising each non-encrypted and encrypted media stream components (**col 15, lines 25-67, col 16, lines 1-67, Figs 1-5**).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving encrypted and non-encrypted types of media streams as taught by Namba et al in the system of Zhang et al as modified by Kollmyer to include the method of receiving a set of media streams comprising non-encrypted and encrypted media streams received at the media stream receiving device. One is motivated as such in order to encrypt portions of the media stream to selectively secure the data streams transmitted between a server and a client.

Regarding claims 41, 93, Zhang et al disclosed wherein the step of encrypting comprises encrypting a portion of at least one layer while not encrypting at least one other layer (**col 15, lines 39-51**).

Regarding claims 42, 94, Zhang et al disclosed wherein the multiple layers comprise base layer (**elementary layer**) and at least one quantized layer (**transport layer, col 15, lines 39-51, Fig 4A**).

Regarding claims 43, 95, Zhang et al disclosed wherein the multiple layers comprise a base layer (**elementary layer**) and at least one supplemental layer (**packetized elementary layer, col 15, lines 45-51, Fig 4A**).

Regarding claims 44-45, 96-97, Zhang et al disclosed wherein the multiple layers provide spatial scalability and wherein the layers provide temporal scalability (**col 8, lines 4-14**).

Regarding claims 46, 98, Zhang et al disclosed wherein the layers provide various levels of filtering (**col 15, lines 39-51, Fig 4A**).

Regarding claims 47, 99, Zhang et al disclosed a for partially encrypting a media stream (**video bit stream, item 60 of Fig 3B, col 13, lines 3-13**), the method comprising the steps of: receiving multiple layers that represent a media stream, wherein the multiple layers provide at least one of a spatial scalability and a temporal scalability (**encoding streams in to multiple layers, col 15, lines 36-56, Fig 4A-B**), but fails to disclose encrypting at least a portion of at least one layer. However, Kollmyer et al in disclosed a method for encrypting selected portions of the multimedia data (**encrypted media stream, col 5, lines 62-67, col 6, lines 1-7, Fig 1**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of encrypting selected portions of the multimedia data in media streams as taught by Kollmyer et al in the system of Zhang et al to include the method converting the media stream to multiple layers and encrypting at least a portion of at least one layer.

However, both Zhang and Kollmyer fail to disclose the feature of receiving media streams comprising non-encrypted and encrypted media stream components. However, Namba et al disclosed the method for receiving media streams comprising each non-encrypted and encrypted media stream components (**col 15, lines 25-67, col 16, lines 1-67, Figs 1-5**).

Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving encrypted and non-encrypted types of media streams as taught by Namba et al in the system of Zhang et al as modified by Kollmyer to include the method of receiving a set of media streams comprising non-encrypted and encrypted media streams received at the media stream receiving device. One is motivated as such in order to encrypt portions of the media stream to selectively secure the data streams transmitted between a server and a client.

Regarding claims 48-49, 100-101, Zhang et al disclosed wherein the step of encrypting comprises encrypting a portion of at least one layer while not encrypting at least one other layer and wherein the multiple layers comprise a base layer and at least one quantized layer(**transport layer, col 15, lines 39-51, Fig 4A**).

Regarding claims 50-51, 102-103, Zhang et al disclosed wherein the multiple layers comprise a base layer (**elementary layer**) and at least one supplemental layer (**packetized elementary layer**) and wherein the multiple layers provide spatial scalability (**col 8, lines 4-14, Fig 4A**).

Regarding claims 52-53, 104-105, Zhang et al disclosed wherein the layers provide temporal scalability and wherein the layers are generated by filtering (**col 15, lines 39-51, Fig 4A**).

Response to Arguments

6. Applicant's argument, see remarks, filed on 07/30/2009, with respect to rejection of claims 1-109 have been fully considered but is moot in view of new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached @ (571)-272-3795. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2476

/Ayaz R. Sheikh/

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Supervisory Patent Examiner, Art Unit 2476